CLAIMS

What we claim is:

1. An immunogenic composition for *in vivo* administration to a host for the generation in the host of a protective immune response against Chlamydial infection, comprising:

   a first vector comprising:

   a first nucleotide sequence encoding a major outer membrane protein (MOMP) of a strain of *Chlamydia* and

   a first promoter sequence operatively coupled to said first nucleotide sequence for expression of said MOMP in the host;

   a second vector comprising:

   a second nucleotide sequence encoding a 76 kDa protein of a strain of *Chlamydia* and a second promoter sequence operatively coupled to said second nucleotide sequence for expression of said 76 kDa protein in the host; and

   a pharmaceutically-acceptable carrier therefor.

2. The immunogenic composition of claim 1 wherein the first nucleotide sequence encodes a MOMP from *Chlamydia pneumoniae*.

3. The immunogenic composition of claim 1 wherein the first nucleotide sequence encodes a MOMP from *Chlamydia trachomatis*.

4. The immunogenic composition of claim 2 wherein said first nucleotide sequence has SEQ ID No: 12, 13 or 14.

5. The immunogenic composition of claim 2 wherein said first nucleotide sequence encodes a MOMP having SEQ ID No: 15 or 16.

6. The immunogenic composition of claim 2 wherein the first promoter is a cytomegalovirus promoter.

7. The immunogenic composition of claim 1 wherein the second nucleotide sequence encodes a 76 kDa protein from *Chlamydia pneumoniae*.

8. The immunogenic composition of claim 1 wherein the second nucleotide sequence encodes a 76 kDa protein from *Chlamydia trachomatis*.

9. The immunogenic composition of claim 7 wherein said second nucleotide sequence has SEQ ID No: 1, 2, 3 or 4.

10. The immunogenic composition of claim 7 wherein said second nucleotide sequence encodes a 76 kDa protein having a molecular size of about 35 kDa and having SEQ ID No: 7.

11. The immunogenic composition of claim 7 wherein said second nucleotide sequence encodes a 76 kDa protein having a molecular size of about 60 kDa and having SEQ ID No: 8 or 9.

12. The immunogenic composition of claim 7 wherein said second promoter is a cytomegalovirus promoter.

13. The immunogenic composition of claim 1 wherein said first vector is a plasmid vector.

14. The immunogenic composition of claim 13 wherein said first plasmid vector has the identifying characteristics of pCAMOMP as seen in Figure 4.

15. The immunogenic composition of claim 1 wherein said second vector is a plasmid vector.

16. The immunogenic composition of claim 15 wherein said second plasmid vector has the identifying characteristics of pCA76kDa as seen in Figure 2.

17. The immunogenic composition of claim 1 wherein both said first and second vectors are plasmid vectors.

18. The immunogenic composition of claim 17 wherein said first plasmid vector is pCAMOMP and said second plasmid vector is pCA76kDa.

19. The immunogenic composition of claim 1 wherein said first and second vectors are present in amounts such that the individual protective effect of each vector upon administration of the composition to the host is not adversely affected by the other.

20. The immunogenic composition of claim 1 wherein said first and second vectors are present in amounts such that an enhanced protective effect is achieved in comparison to the individual vectors alone.

21. A method of immunizing a host against disease caused by infection with a strain of *Chlamydia*, which comprises administering to said host an effective amount of an immunogenic composition of claim 1.

22. The method of claim 21 wherein said immunogenic composition is administered intranasally.

23. The method of claim 21 wherein said host is a human host.

ABSTRACT OF THE DISCLOSURE

A protective immune response against Chlamydial infection is achieved by *in vivo* administration of an immunogenic composition comprising two vectors and a pharmaceutically-acceptable carrier therefor. One of the vectors comprises a first nucleotide sequence encoding a major outer membrane protein (MOMP) of a strain of *Chlamydia*, preferably *C. pneumoniae*, and a promoter sequence operatively coupled to the first nucleotide sequence for expression of the MOMP in the host. The other of the vectors comprises a second nucleotide sequence encoding a 76 kDa protein of a strain of *Chlamydia*, preferably *C. pneumoniae*, and a promoter sequence operatively coupled to the second nucleotide sequence for expression of the 76 kDa protein in the host. The protection efficiency which is achieved by the immunization procedure is enhanced over that attained with the individual vectors alone.